Teletypewriter Emulation (TTY)

The Wang VS Teletypewriter Emulation (TTY) program emulates a standard, asynchronous, interactive teletypewriter. TTY thus provides communications between the VS and host computers supporting asynchronous communications. The program, in conjunction with a communications input/output processor (IOP), can also be used to receive data from and send data to asynchronous teletypewriter devices locally or remotely connected to the VS.

TTY communicates in half- or full-duplex mode, over point-to-point switched (dial-up) or leased telephone lines. Maximum supported line speed is 9600 bits per second (bps). The duplex mode and line speed are user selectable along with other communication options, such as parity setting and the number of data bits and stop bits per character. The ASCII line code is used by TTY. The use of an automatic calling unit (ACU), including the European V.25 ACU option, is also supported.

OPERATION

TTY can be executed as a foreground task from VS workstations, or as a background task under the control of a user-written VS procedure. As a foreground task, TTY is run as an interactive program where user intervention is necessary. While operating interactively, the program allows keyboard entry as well as transmission of files and libraries from the workstation screen.

Keyboard-entered text is highlighted on the screen until it is transmitted.

VS disk files and libraries, as well as word processing (WP) documents and libraries, can be transmitted. The conversion of WP files to TTY-formatted text is performed automatically by TTY before transmission. Transmission of program object files is not supported. During text or file transmission, concurrent reception of text to the screen can occur.

Incoming text is displayed on the screen in normal intensity. This text can be routed concurrently to a disk file and/or printer file. Optionally, a log file can be maintained on disk to record all text received, all keyboard-entered text, the names of all files transmitted, and any error
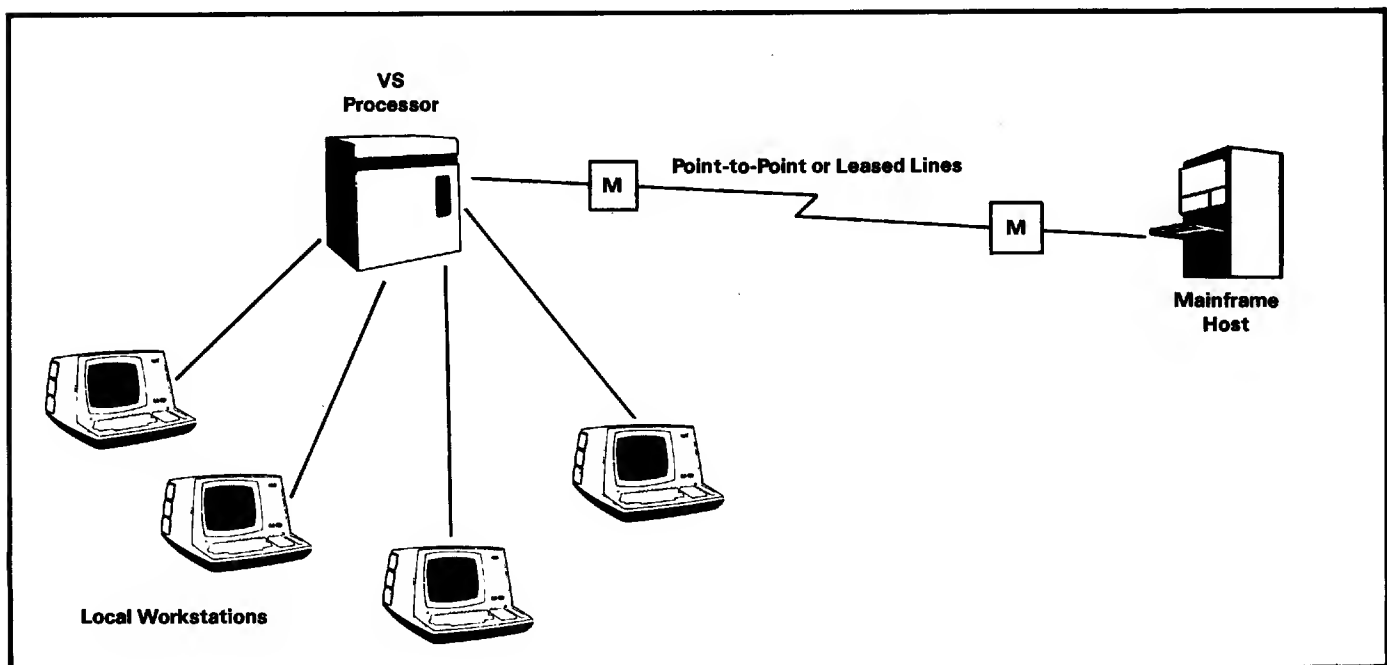
conditions occurring during file transmission. The user can choose to receive data to all three types of files — disk, print, and log — in one session.

A message (up to 80 characters long) can be transmitted to a host computer or asynchronous device. Optionally, by means of the VS RUN function, TTY can execute a user-specified subprogram.

Other user-selectable features of the program include the following.

● Half or Full Screen Display — While TTY is being operated interactively, the user can select a half (13-line) or full (24-line) screen display.

● Control Characters — ASCII control characters can be transmitted and received. Control characters entered from the keyboard are transmitted along with the text stream.

● Break Signal — A break signal can be transmitted from the keyboard during interactive communications, except during file transmission. If a break signal is detected during file transmission, TTY stops transmission and closes any open files.

● XON/XOFF — These commands stop (XOFF) and start (XON) transmission whenever issued. If an XOFF command is received during data transmission, TTY stops transmission until the XON signal is received. Conversely, TTY sends XOFF whenever the buffers into which incoming data is received become full. The XON command is sent as soon as the buffers are available again.

● EOF — This screen allows the user to designate a 2-byte end-of-file sequence. TTY automatically closes any open disk and print files upon EOF detection. EOF characters can optionally be sent immediately after the last record of any transmitted file.

● EOR — The EOR feature allows a user-designated end-of-record sequence to be specified for record reception and transmission purposes. When the EOR sequence is received, the record is written to the currently open disk or print file. The EOR sequence can also be appended to each record being transmitted.

● ECHO HOST — When enabled, the ECHO HOST selection causes TTY to transmit all received characters back to the host. TTY must be operating in full-duplex mode to use this option.

● RESPONSE — When enabled, the RESPONSE selection causes TTY to wait for host response before transmitting the next record. This option is applicable only during file transmission.

PRODUCT SPECIFICATIONS

Software
VS Teletypewriter Emulation (TTY) # 195-2185-3.

Communications IOP
A Model 22V26-1, -2, or -3 communications IOP is required for the VS-90 and -100; a Model 22V06-1, -2, or -3 for other VS systems.

Modem
For point-to-point communications over switched or dedicated networks, any RS-232-C/V.24-compatible modem can be used, such as the Wang WA3451 Asynchronous/ Synchronous modem. Modems at both ends of the communications link must be compatible with each other.

For communications over RS-232-C/ V.24-compatible cables, a Wang 2227N Null Modem can be used for distances up to 25 feet (7.6 m) between the VS and the null modem, and up to 25 feet between the null modem and a host or TTY device.

Line Discipline
Asynchronous point-to-point operation on a switched (dial-up) or leased line (half- or full-duplex).

Line Speeds
Selectable rates are 50, 75, 110, 134.5, 150, 200, 300, 600, 1200, 2400, 4800, and 9600 bps.

Code Translation
The ASCII character set is used for received and transmitted data.

Number of Data Bits
7 or 8 data bits (excluding parity bit).

Stop Bit Duration
1, 1.5, or 2 data bit intervals between data characters.

Error Checking
Selectable parity checking: odd, even, or none.

Error Messages
Appropriate error messages are displayed on the workstation screen during foreground TTY operations. When the log function is selected, all displayed file transmission errors are also logged.

Communications
Communicates with any host system or teletypewriter device supporting asynchronous ASCII line code.

Transmit/Receive
Transmits from keyboard and disk file (including print format file on disk).

Receives to workstation screen, disk file, printer file (on-line printing not supported), and log file on disk.

Reception Text/Record Lengths
Screen text: up to 80 characters per screen line.

Disk file records: text blocked into 80-or-less characters per disk file record.

Printer file records: text blocked into 134-character printer file records (Teletypewriter Line Feed and Form Feed characters are translated to VS print control characters).

Log file records: text blocked into 80-or-less characters per log file record.

Transmission Text/Record Lengths
Screen text: up to 80 characters (one screen line) per transmission.

Disk file records: up to 164 characters per transmission (Text, WP, print, and source files are permitted; object files are not. WP documents are automatically converted to TTY-formatted records of size equal to the WP format lines, with a maximum line length of 158 characters).

Printer file records: 134 characters per transmission (Print files are transmitted in uncompressed format, with VS print file format control characters translated to TTY control characters. Space Before, Space After, and Suppress Spacing are supported).

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